ARK-5280

Fanless, PC Board Expandable, Embedded Box Computer

Features

- Extremely compact, sealed construction with fanless operation, supports Intel® Pentium® M and Celeron® M up to 1.8 GHz
- Dual Independent display supported by built-in system digital DVI and analog VGA/CRT interfaces
- 2 PCI slots for PC board expansion
- Rubber anti-vibration card-holder for PC expansion boards
- Anti-vibration HDD to ensure Maximum Reliability
- ATX, and wide-range of DC Power Input support: DC 9 V ~ 32 V
- Simple, modularized user-friendly design for quick installation, expansion and easy maintenance

Introduction

ARK-5280 is a powerful, robust and fanless Embedded Box Computer. The high performance ARK-5280 Embedded Box Computer is equipped with socket 479 that supports Intel Celeron-M and Pentium-M processors, which is highly suitable for embedded and industrial PC applications requiring high processor performance within a limited space. Featuring two PCI slots for application expansion and system integration, ARK-5280 Embedded Box Computer also carries four USB 2.0 and four serial port communication I/O interfaces. It can support up to 2 GB DDR SDRAM of main memory and has dual independent display support from the built-in CRT/VGA and DVI interfaces that gives ARK-5280 Embedded Box Computer great flexibility within space critical environments. ARK-5280 is ideal for embedded system applications such as machine automation, and industrial plant and cabinet integration.

Fanless Power Computing Performance

- Fanless operation in sealed construction utilizing low thermal emission processors
- Supports Socket 479 type Intel Pentium M and Celeron M processors

Compact, Extremely Robust Construction

- Robust sealed Aluminum casting construction using a modularized design to offer maximum space efficiency
- Rubber anti-vibration card-holder for PC expansion boards and anti-vibration HDD to ensure maximum reliability

Highly Optimized Integration

- Simple and modularized service-friendly design
- Quick installation, easy expansion and maintenance
- Systems are supplied "Ready-to-Run"
- Access wide-range of DC 9 V ~ 32 V power input source with ATX support; offers flexibility for various automation environments
- Long life cycle support for product continuity to secure investment

Specifications

Processor System

- **Processor Support**: Supports UFCPGA2, 478-pin embedded Intel Pentium M or Celeron M Processors, and supports up to Intel Pentium M processor 745 at 1.8 GHz
- **System Chipset**: Intel 855 GME GMCH Graphics Memory Controller Hub (GMCH)
6300ESB I/O Controller Hub (ICH)
400 MHz FSB
- **BIOS**: Award® 4 Mbit Flash BIOS
- **Second level cache**: Celeron M processor: 512 KB or 1 MB
Pentium M processor 1 MB or 2 MB
- **DRAM**: 2 x 200-pin SODIMM sockets,
Support ECC DDR200/266/333 SDRAM Up to 2 GB
- **Power Management**: APM Rev. 1.2, ACPI Supported

Display

- **Display Controller**: Intel 855 GME integrated graphics utilizing Intel Extreme Graphics 2 technology
- **Display Memory**: Optimized Shared Memory Architecture, supports up to 64 MB frame buffer using system memory
- **Display Interface**: CRT Interface
DVI interface, compliant with DVI specification 1.0
- **Resolution**: Up to 2048 x 1536 @ 24 bpp (75 Hz)

Ethernet

- **Ethernet Interface**: Intel 82551ER 10/100Base-Tx Fast Ethernet Controller
1 x RJ45

Audio

- **Audio Interface**: Audio controller on the ICH4 chip.
Realtek® ALC 202 AC97 Codec
AC97 3D surround stereo sound, Dual 2.2 W Amplifier
Supports Line-in, Line-out, Mic-in connectors on the front site

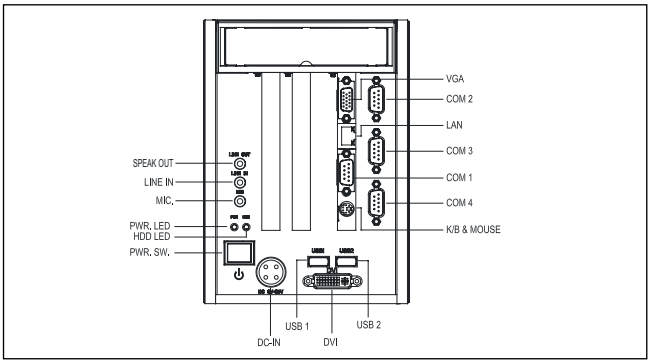
Others

- **Watchdog timer**: 255 levels timer interval, setup by software
- **Keyboard/Mouse**: One Mini-Din connector support PS/2 Keyboard and PS/2 Mouse
- **Serial Ports**: 4 x serial ports
COM2: RS-232/422/485 by a DB9 connector on front site
COM1, COM3 and COM4: 3*RS-232 by 3 DB9 connectors on front site
- **USB**: Built-in 2 x USB 2.0 ports
Optional USB Cable-Bracket to support 2 additional USB 2.0 ports

All product specifications are subject to change without notice
Last updated: 17-May-2006

Storage

- **SSD** Supports One Compact Flash Card Type I/II
- **HDD** Supports one drive bay for 2.5-inch HDD



PC Board Expansion

- **Expansion Slots** Built-in 2 x PCI Expansion Slots
  Support Maximum Length of 186mm of PCB Boards Expansion

System External I/O on chassis

- **Front Panel** 1 x Power On/Off Button
- **External I/O port** 1 x 4-pole, DC DIN-Jack of Power Input connector
  2 x USB Ports
  1 x DVI Port
  1 x DB-15 VGA Port
  1 x RJ-45 0/100BaseT Fast Ethernet Port
  1 x DB-9 as COM2 for RS-232/422/485
  3 x RS-232 COM Port as COM1, COM3 and COM4
  1 x Mini-Din as PS/2 Keyboard
  Line-in, Line-out and Mic-in connector

Internal DC-to-DC Power Supply Unit

- **Output Rating** DC 120 W
- **Input Voltage** 9 VDC ~ 32 VDC,
  Supports Power Input Over Voltage (35V) protection
  Supports Maximum Power Input:
  9 VDC/14 A @ 126 W
  12 VDC/10 A @ 120 W
  16 VDC/8 A @ 128 W
  19 VDC/6.5 A @ 124 W
  24 VDC/5 A @ 120 W
  32 VDC @ 3 A @ 100 W
- **Fuse Rating** DC 15 A/63 V

Mechanical

- **Construction** Aluminum housing, Pantone Silver Color
- **Dimension** 137 mm (W) x 189 mm (H) x 221 mm (D)
- **Weight** 5 kg

Software Compatibility

- **Software** OS support: Windows 2000, Windows XP, and Windows XP Embedded

Environmental Specification

- **Operating Temperature** When system is equipped with 2.5-inch HDD without PC Expansion Boards: 0 ~ 45° C
  When system is equipped with Industrial Grade Compact Flash Disk without PC Expansion Boards: -20 ~ 55° C
- **Relative humidity** 95% @ 40° C (non-condensing)
- **Vibration Loading During Operation** When system is equipped with 2.5-inch HDD: 1 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 10 ct./min, 1 hr/axisl
  When system is equipped with Industrial Grade Compact Flash Disk:
  5 Grms, IEC 60068-2-64, random, 5 ~ 500 Hz, 10 ct./min, 1 hr/axis
- **Shock During Operation** When system is equipped with 2.5-inch HDD:
  20 G, IEC 60068-2-27, half sine, 11ms duration
  When system is equipped with Industrial Grade Compact Flash Disk:
  50 G, IEC 60068-2-27, half sine, 11ms duration
- **Safety** UL
- **EMC** CE/FCC

Packing List

- **1 x ARK-5280 Unit**
- **1 x PS2 Keyboard/Mouse Cable** (P/N: 1700060202)
- **1 x Utility CD**
- **1 x Rear Mounting Bracket** (P/N: 1960004454)
- **2 x Bottom Mounting Brackets** (P/N: 1960004453)
  Note: 1 of 2 Bottom mounting brackets is made for common usage for both table and wall mount
- **1 x Power Cable, DIN-Jack to DC-Plug** (P/N: 1700001861)

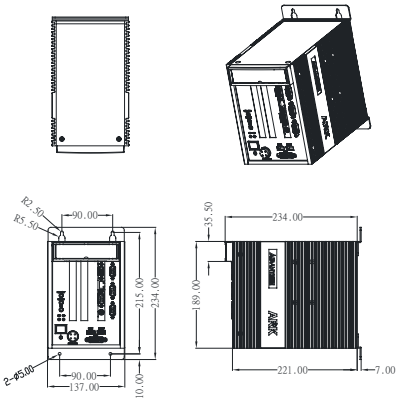
Ordering Information

- **ARK-5280-1S3A1E** Celeron M 1.3 GHz Embedded Box Computer, with VGA/DVI, Fast Ethernet, 2 x USB, 4 x COM, AC97 Audio, 512 MB DDR SDRAM, 40 GB HDD
- **ARK-5280-1S6A1E** Pentium M 1.6 GHz Embedded Box Computer, with VGA/DVI, Fast Ethernet, 2 x USB, 4 x COM, AC97 Audio, 512 MB DDR SDRAM, 40 GB HDD

Optional Items

- **2070000606** XPE SP2 OS Image and License for ARK-5280, English Version (440 MB)
- **1757000224** AC-to-DC ADAPTER 4P DC19 V/7.89 A 150 W (ARK-5280)
- **9689071001** Power cord 3P 180 cm USA type
- **170203183c** Power CABLE 3P 183 cm Europe type
- **1700001934** Dual-USB Cable-Bracket for ARK-5280
- **1700002224** Flat Cable LVDS +USB Port Bracket for ARK-5280
- **1700002223** Flat Cable Printer Port Bracket for ARK-5280

Dimensions



Unit: mm